REMARKS

Original Claim 1 is drawn to a process that includes contacting a 2-alkylhydroxyaromatic compound with "a BF_3 source which is capable of complex formation with the 2-alkylhydroxy compound".

The Office has taken the position that Lange I (U.S. 6,875,897) and Lange II (U.S. 6,914,163) describe the BF_3 source recited in the present claims. Applicants traverse the rejection for the reason that the Office provided no evidence that the catalysts of the Lange references are capable of forming a complex with the 2-alkylhydroxy aromatic compound recited in Claim 1.

Lange I makes it absolutely clear that the alkylation catalyst must be used in the presence of an ether co-catalyst. The ethers suitable for co-catalyst use in the Lange I process are described at column 3, lines 12-24. Applicants submit that the combination of BF_3 and one of the ether co-catalysts described in the Lange I reference forms a complex that is not capable of further complexing the 2-alkylhydroxy compound recited in present Claim 1. Because BF_3 is a strong Lewis acid and the ether co-catalysts of the Lange I reference are strong Lewis bases, the resulting complex is thermodynamically stable. The ether co-catalyst is thus not susceptible to substitution with the sterically hindered 2-alkylhydroxy compound.

Applicants submit that the rejection of the claims in view of Lange I should be withdrawn at least for the reason that the Office failed to demonstrate that the Lange I catalyst is capable of forming a complex with a 2-alkylhydroxy aromatic compound.

Applicants draw the Office's attention to new dependent Claim 23. New Claim 23 further defines the BF_3 source recited in Claim 1. Claim 23 excludes the catalyst/ether co-catalyst materials described in the Lange I reference. The subject matter of Claim 23 is thus further patentable over Lange I.

The rejection of the claims as anticipated by Lange II is likewise not supportable. Lange II discloses the inclusion of complexes of BF_3 in a manner that would exclude the formation of a complex of the catalyst with the 2-alkylhydroxy aromatic compound of Claim 1 (see column 3, line 66 - column 4, line 24 - "Ethers suitable as cocatalysts..."). Applicants thus further respectfully request withdrawal of the rejection in view of the Lange II reference.

Not only does the cited art fail to disclose the presently-claimed invention, Applicants have demonstrated the significantly superior performance of the presently claimed process in comparison to processes which use a complex catalyst including an ether. Each of Examples 1-2 of the specification describe processes that are carried out with a catalyst that is a complex of BF_3 with a compound such as phenol (Comparative Example 1) or diethyl ether—"Alkylation using BF_3-diethyl ether complex as catalyst" (Comparative Example 2). Inventive Examples 4-7, on the other hand, include a BF_3 source that is capable of complex formation with a 2-alkylhydroxyaromatic compound.

When the resulting 2-alkylpolyisobutenylphenol is used in an additive for turbine fuel, a substantially reduced amount of particles are generated by thermal stress (see page 23, lines 19-20 of the specification). Applicants have thus not only demonstrated that the presently claimed invention is not anticipated over the Lange references but have further rebutted any as yet unstated rejection of the claims as obvious over the Lange references.

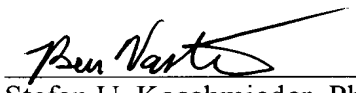
The rejection of claim 1 under 35 U.S.C. § 112, 2nd ¶, has been obviated by amendment. Accordingly, the rejection is no longer tenable and should be withdrawn.

The rejection of claims 19-20 and 22 under 35 U.S.C. § 101 has been obviated by amendment. Accordingly, the rejection is no longer tenable and should be withdrawn..

For the reasons stated above, Applicants respectfully request withdrawal of the rejection and the allowance of all now-pending claims.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Stefan U. Koschmieder, Ph.D.
Registration No. 50,238

Benjamin A. Vastine, Ph.D.
Registration No. 64,422

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/09)